

**MULTIMEDIA AND SCENT STORAGE CARTRIDGE DESIGN HAVING  
ELECTROSTATIC SCENT RELEASE AND METHODS FOR USING SAME**

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**COMPLETE LIST OF CLAIMS**

1. (Withdrawn) A scent- and multimedia-bearing card for use with a separate scent release and multimedia playback system, the scent- and multimedia-bearing card comprising:

- 10 a scent storage medium for storing at least one scent;  
an encapsulated multimedia storage medium for storing multimedia information;  
and  
scent release and multimedia playback control information for use by the scent release and multimedia playback system in coordinating scent release and multimedia  
15 playback from the scent- and multimedia-bearing card.

2. (Currently Amended) A detachable scent- and multimedia-bearing card for use with a separate scent release and multimedia playback system, the scent- and multimedia-bearing card comprising:

- a scent storage medium for storing at least one scent; and  
20 an encapsulated or detachable multimedia storage medium for storing multimedia information.  
and  
~~scent release and multimedia playback control information for use by the scent release and multimedia playback system in coordinating scent release and multimedia~~  
25 ~~playback from the scent- and multimedia-bearing card.~~

3. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the encapsulated multimedia storage medium comprises a Type II DVD-RAM-like cassette device, the Type II DVD-RAM-like cassette device having a housing structure encapsulating a removable DVD-RAM or DVD disc.
- 5 4. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the scent storage medium stores a plurality of scents.
5. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the scent storage medium stores at least one fragrance.
6. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the  
10 scent storage medium stores at least one aroma.
7. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the scent storage medium stores at least one flavor.
8. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the scent storage medium stores at least one air-borne therapeutic agent.
- 15 9. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the scent storage medium stores at least one air-borne medicine.
10. (Withdrawn) The scent- and multimedia-bearing card of claim 1 wherein the scent storage medium comprises:
- a housing;
- 20 a scent storage reservoir contained in the housing; and
- a scent release unit connected to the scent storage reservoir for releasing scent from the scent- and multimedia-bearing card.

11. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 2 wherein the scent storage medium comprises:

a housing;

a scent storage reservoir contained in the housing; and

5 a scent release unit connected to the scent storage reservoir for releasing scent from the detachable scent- and multimedia-bearing card.

12. **(Withdrawn)** The scent- and multimedia-bearing card of claim 10 wherein the scent release unit comprises:

a scent release chamber for containing scent just prior to release; and

10 a tube connecting the scent reservoir to the scent chamber.

13. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 11 wherein the scent release unit comprises:

a scent release chamber for containing scent just prior to release; and

a tube connecting the scent reservoir to the scent chamber.

15 14. **(Original)** The scent- and multimedia-bearing card of claim 12 wherein the scent release chamber comprises a three-dimensional region enclosed on all sides except having a scent release opening facing upwards for releasing scent from the scent release chamber, and wherein the scent release unit further comprises:

a cover for covering the scent release opening, wherein the cover is moveable

20 between at least two positions, a first position wherein the scent release opening is substantially sealed thereby preventing scent from escaping from the scent release chamber, and a second position, wherein the cover is displaced from the opening in the

scent release chamber, wherein the displacement of the cover permits scent to escape from the scent release chamber during scent release operations.

15. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 13 wherein the scent release chamber comprises a three-dimensional region

5 enclosed on all sides except having a scent release opening facing upwards for releasing scent from the scent release chamber, and wherein the scent release unit further comprises:

a cover for covering the scent release opening, wherein the cover is moveable between at least two positions, a first position wherein the scent release opening is  
10 substantially sealed thereby preventing scent from escaping from the scent release chamber, and a second position, wherein the cover is displaced from the opening in the scent release chamber, wherein the displacement of the cover permits scent to escape from the scent release chamber during scent release operations.

16. **(Original)** The scent- and multimedia-bearing card of claim 14 wherein the cover

15 is made from electromagnetic material and wherein the scent release unit further comprises:

an electromagnet for moving the cover from the first position to the second position; and

electromagnet control means for controlling the operation of the electromagnet.

20 17. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 15 wherein the cover is made from electromagnetic material and wherein the scent release unit further comprises:

an electromagnetic mechanism means for moving the cover from the first position to the second position; and

electromagnetic control means for controlling the operation of the electromagnetic mechanism means.

- 5 18. **(Original)** The scent- and multimedia-bearing card of claim 16 wherein the electromagnet control means further comprises:

wiring for receiving control signals from the scent release and multimedia playback system, the control signals controlling the operation of the electromagnet.

- 10 19. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 17 wherein the electromagnetic control means further comprises:

wiring for receiving control signals from the scent release and multimedia playback system, the control signals controlling the operation of the electromagnetic mechanism means.

- 15 20. **(Original)** The scent- and multimedia-bearing card of claim 16 further comprising:

a spring connecting the cover to the scent release unit, wherein the spring maintains the cover in the first, closed position until the electromagnet is energized, when the cover moves to the open, second position, and wherein the spring returns the cover to the closed position after the electromagnet is de-energized.

- 20 21. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 17 further comprising:

a spring connecting the cover to the scent release unit, wherein the spring maintains the cover in the first, closed position until the electromagnetic mechanism

means is energized, when the cover moves to the open, second position, and wherein the spring returns the cover to the closed position after the electromagnetic mechanism means is de-energized.

22. **(Original)** The scent- and multimedia-bearing card of claim 20 wherein the  
5 spring comprises a spiral spring.

23. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 21 wherein the spring comprises a spiral spring.

24. **(Original)** The scent- and multimedia-bearing card of claim 16 wherein the scent release unit further comprises:

- 10 a hinge connecting the cover to the scent release unit, whereby the cover can rotate about the hinge while opening and closing; and
- a leaf spring cooperating with the hinge to return the cover to a closed position when the electromagnet is not energized.

25. **(Currently Amended)** The detachable scent- and multimedia-bearing card of  
15 claim 17 wherein the scent release unit further comprises:

- a hinge connecting the cover to the scent release unit, whereby the cover can rotate about the hinge while opening and closing; and
- a leaf spring cooperating with the hinge to return the cover to a closed position when the electromagnetic mechanism means is not energized.

20 26. **(Withdrawn)** The scent- and multimedia-bearing card of claim 12 wherein the scent release unit further comprises an absorbent material positioned within the scent release chamber for momentarily retaining scent to be released from the scent- and multimedia-bearing card.

27. **(Withdrawn)** The scent- and multimedia-bearing card of claim 10 wherein the scent release unit further comprises:

electrostatic scent release apparatus for ionizing scent in the scent release unit.

28. **(Currently Amended)** The detachable scent- and multimedia-bearing card of

5 claim 11 wherein the scent release unit further comprises:

electrostatic scent release apparatus for ionizing scent in the scent release unit.

29. **(Original)** The scent- and multimedia-bearing card of claim 27 wherein the electrostatic scent release apparatus further comprises:

corona discharge pin for creating corona discharge to ionize scent; and

10 wiring for connecting the corona discharge pin to an external voltage source.

30. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 28 wherein the electrostatic scent release apparatus further comprises:

corona discharge pin for creating corona discharge to ionize scent; and

wiring for connecting the corona discharge pin to an external voltage source.

15 31. **(Original)** The scent- and multimedia-bearing card of claim 29 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent molecules to assist in the scent release process.

32. **(Currently Amended)** The detachable scent- and multimedia-bearing card of

20 claim 30 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent molecules to assist in the scent release process; and

wiring for connecting the grid to a ground or an external voltage source with a  
opposite charge to the corona discharge pin.

33. **(Original)** The scent- and multimedia-bearing card of claim 16 wherein the scent release unit further comprises:

5       electrostatic scent release apparatus for ionizing scent in the scent release unit.

34. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 17 wherein the scent release unit further comprises:

electrostatic scent release apparatus for ionizing scent in the scent release unit.

35. **(Original)** The scent- and multimedia-bearing card of claim 33 wherein the

10       electrostatic scent release apparatus further comprises:

corona discharge pin for creating corona discharge to ionize scent; and

wiring for connecting the corona discharge pin to an external voltage source.

36. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 34 wherein the electrostatic scent release apparatus further comprises:

15       corona discharge pin for creating corona discharge to ionize scent; and

wiring for connecting the corona discharge pin to an external voltage source.

37. **(Original)** The scent- and multimedia-bearing card of claim 35 wherein the cover and electromagnet are coated in epoxy, wherein the epoxy protects the cover and electromagnet during corona discharge.

20       38. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 36 wherein the cover and electromagnetic mechanism means are coated in epoxy or high voltage insulation materials, wherein the epoxy or high voltage insulation materials protects the cover and electromagnetic mechanism means during corona discharge.



39. **(Original)** The scent- and multimedia-bearing card of claim 35 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent molecules to assist in the scent release process.

5 40. **(Currently Amended)** The detachable scent- and multimedia-bearing card of claim 36 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent molecules to assist in the scent release process; and

wiring for connecting the grid to a ground or an external voltage source with a  
10 opposite charge to the corona discharge pin.

41. **(Withdrawn)** A scent-bearing card for use with encapsulated optical multimedia storage devices of the type wherein an optical disc is contained in a storage housing, the scent-bearing card and encapsulated optical multimedia storage devices for use with a separate scent release and multimedia playback system to create an immersive  
15 multimedia experience comprised of olfactory and visual or sound elements, the scent-bearing card comprising:

a scent storage medium for storing at least one scent; and

scent release control information for use by the scent release and multimedia playback system in controlling scent release from the scent-bearing card.

20 42. **(Currently Amended)** A attachable scent-bearing card for use with a separate scent release and multimedia playback system to create an immersive multimedia experience comprised of olfactory and visual or sound elements, the attachable scent-bearing card comprising:

a scent storage medium for storing at least one scent; and  
scent release control information for use by the scent release and multimedia  
playback system in controlling scent release from the attachable scent-bearing card.

43. (Withdrawn) The scent- and multimedia-bearing card of claim 41 wherein the  
5 encapsulated multimedia storage optical multimedia storage device comprises a Type II  
DVD-RAM-like cassette device, the Type II DVD-RAM-like cassette device having a  
housing structure encapsulating a removable DVD-RAM or DVD disc.

44. (Withdrawn) The scent-bearing card of claim 41 wherein the scent storage  
medium stores a plurality of scents.

10 45. (Withdrawn) The scent-bearing card of claim 41 wherein the scent storage  
medium stores at least one fragrance.

46. (Withdrawn) The scent-bearing card of claim 41 wherein the scent storage  
medium stores at least one aroma.

47. (Withdrawn) The scent-bearing card of claim 41 wherein the scent storage  
15 medium stores at least one flavor.

48. (Withdrawn) The scent-bearing card of claim 41 wherein the scent storage  
medium stores at least one air-borne therapeutic agent.

49. (Withdrawn) The scent-bearing card of claim 41 wherein the scent storage  
medium stores at least one air-borne medicine.

20 50. (Withdrawn) The scent-bearing card of claim 41 wherein the scent storage  
medium comprises:

a housing;

a scent storage reservoir contained in the housing; and

a scent release unit connected to the scent storage reservoir for releasing scent from the scent-bearing card.

51. **(Currently Amended)** The attachable scent-bearing card of claim 42 wherein the scent storage medium comprises:

- 5           a housing;
- a scent storage reservoir contained in the housing; and
- a scent release unit connected to the scent storage reservoir for releasing scent from the attachable scent-bearing card.

52. **(Withdrawn)** The scent-bearing card of claim 50 wherein the scent release unit  
10 comprises:

- a scent release chamber for containing scent just prior to release; and
- a tube connecting the scent reservoir to the scent release chamber.

53. **(Currently Amended)** The attachable scent-bearing card of claim 51 wherein the scent release unit comprises:

- 15           a scent release chamber for containing scent just prior to release; and
- a tube connecting the scent reservoir to the scent release chamber.

54. **(Original)** The scent-bearing card of claim 52 wherein the scent release chamber comprises a three dimensional region enclosed on all sides except having a scent release opening facing upwards for releasing scent from the scent release chamber, and wherein  
20 the scent release unit further comprises:

- a cover for covering the scent release opening, wherein the cover is moveable between at least two positions, a first position wherein the scent release opening is substantially sealed thereby preventing scent from escaping from the scent release

chamber, and a second position, wherein the cover is displaced from the opening in the scent release chamber, wherein the displacement of the cover permits scent to escape from the scent release chamber during scent release operations.

55. **(Currently Amended)** The attachable scent-bearing card of claim 53 wherein the  
5 scent release chamber comprises a three dimensional region enclosed on all sides except having a scent release opening facing upwards for releasing scent from the scent release chamber, and wherein the scent release unit further comprises:

a cover for covering the scent release opening, wherein the cover is moveable between at least two positions, a first position wherein the scent release opening is  
10 substantially sealed thereby preventing scent from escaping from the scent release chamber, and a second position, wherein the cover is displaced from the opening in the scent release chamber, wherein the displacement of the cover permits scent to escape from the scent release chamber during scent release operations.

56. **(Original)** The scent-bearing card of claim 54 wherein the cover is made from  
15 electromagnetic material and wherein the scent release unit further comprises:

an electromagnet for moving the cover from the first position to the second position; and

electromagnet control means for controlling the operation of the electromagnet.

57. **(Currently Amended)** The attachable scent-bearing card of claim 55 wherein the  
20 cover is made from electromagnetic material and wherein the scent release unit further comprises:

an electromagnetic mechanism means for moving the cover from the first position to the second position; and

electromagnetic control means for controlling the operation of the

electromagnetic mechanism means.

58. **(Original)** The scent-bearing card of claim 56 wherein the electromagnet control means further comprises:

5 wiring for receiving control signals from the scent release and multimedia playback system, the control signals controlling the operation of the electromagnet.

59. **(Currently Amended)** The attachable scent-bearing card of claim 57 wherein the electromagnetic control means further comprises:

wiring for receiving control signals from the scent release and multimedia

10 playback system, the control signals controlling the operation of the electromagnetic mechanism means.

60. **(Original)** The scent-bearing card of claim 56 further comprising:

a spring connecting the cover to the scent release unit, wherein the spring maintains the cover in the first, closed position until the electromagnet is energized, when  
15 the cover moves to the open, second position, and wherein the spring returns the cover to the closed position after the electromagnet is de-energized.

61. **(Currently Amended)** The attachable scent-bearing card of claim 57 further comprising:

a spring connecting the cover to the scent release unit, wherein the spring

20 maintains the cover in the first, closed position until the electromagnetic mechanism means is energized, when the cover moves to the open, second position, and wherein the spring returns the cover to the closed position after the electromagnetic mechanism means is de-energized.

62. **(Original)** The scent-bearing card of claim 60 wherein the spring comprises a spiral spring.

63. **(Currently Amended)** The attachable scent-bearing card of claim 61 wherein the spring comprises a spiral spring.

5 64. **(Original)** The scent-bearing card of claim 56 wherein the scent release unit further comprises:

a hinge connecting the cover to the scent release unit, whereby the cover can rotate about the hinge while opening and closing; and

a leaf spring cooperating with the hinge to return the cover to a closed position

10 when the electromagnet is not energized.

65. **(Currently Amended)** The attachable scent-bearing card of claim 57 wherein the scent release unit further comprises:

a hinge connecting the cover to the scent release unit, whereby the cover can rotate about the hinge while opening and closing; and

15 a leaf spring cooperating with the hinge to return the cover to a closed position when the electromagnetic mechanism means is not energized.

66. **(Withdrawn)** The scent-bearing card of claim 50 wherein the scent release unit further comprises an absorbent material positioned within the scent release chamber for momentarily retaining scent to be released from the scent-bearing card.

20 67. **(Withdrawn)** The scent-bearing card of claim 50 wherein the scent release unit further comprises:

electrostatic scent release apparatus for ionizing scent in the scent release unit.

68. **(Currently Amended)** The attachable scent-bearing card of claim 51 wherein the scent release unit further comprises:

electrostatic scent release apparatus for ionizing scent in the scent release unit.

69. **(Original)** The scent-bearing card of claim 67 wherein the electrostatic scent

5 release apparatus further comprises:

corona discharge pin for creating corona discharge to ionize scent; and

wiring for connecting the corona discharge pin to an external voltage source.

70. **(Currently Amended)** The attachable scent-bearing card of claim 68 wherein the electrostatic scent release apparatus further comprises:

10 corona discharge pin for creating corona discharge to ionize scent; and

wiring for connecting the corona discharge pin to an external voltage source.

71. **(Original)** The scent-bearing card of claim 69 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent

15 molecules to assist in the scent release process.

72. **(Currently Amended)** The attachable scent-bearing card of claim 70 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent

molecules to assist in the scent release process; and

20 wiring for connecting the grid to a ground or an external voltage source with a opposite charge to the corona discharge pin.

73. **(Original)** The scent-bearing card of claim 56 wherein the scent release unit further comprises:

electrostatic scent release apparatus for ionizing scent in the scent release unit.

74. **(Currently Amended)** The attachable scent-bearing card of claim 57 wherein the scent release unit further comprises:

electrostatic scent release apparatus for ionizing scent in the scent release unit.

5 75. **(Original)** The scent-bearing card of claim 73 wherein the electrostatic scent release apparatus further comprises:

corona discharge pin for creating corona discharge to ionize scent; and

wiring for connecting the corona discharge pin to an external voltage source.

76. **(Currently Amended)** The attachable scent-bearing card of claim 74 wherein the

10 electrostatic scent release apparatus further comprises:

corona discharge pin for creating corona discharge to ionize scent; and

wiring for connecting the corona discharge pin to an external voltage source.

77. **(Original)** The scent-bearing card of claim 75 wherein the cover and electromagnet are coated in epoxy, wherein the epoxy protects the cover and

15 electromagnet during corona discharge.

78. **(Currently Amended)** The attachable scent-bearing card of claim 76 wherein the cover and electromagnetic mechanism means are coated in epoxy or high voltage insulation materials, wherein the epoxy or high voltage insulation materials protects the cover and electromagnetic mechanism means during corona discharge.

20 79. **(Original)** The scent-bearing card of claim 75 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent molecules to assist in the scent release process.



80. (Currently Amended) The attachable scent-bearing card of claim 76 wherein the electrostatic scent release apparatus further comprises:

a grid opposite from the corona discharge pin for attracting ionized scent molecules to assist in the scent release process; and

5        wiring for connecting the grid to a ground or an external voltage source with a opposite charge to the corona discharge pin.

81. (New) The grid opposite from the corona discharge pin of claim 32 wherein the opposite charged grid further neutralize the ionized scent molecules to assist in the scent release process.

10    82. (New) The scent-bearing card of claim 30 wherein the electrostatic scent release apparatus further comprises:

a shield surround the corona discharge pin for focusing ionized scent molecules to assist in the scent release process; and

15        wiring for connecting the shield to a ground or an external voltage source with a same charge as the corona discharge pin.

83. (New) The corona discharge pin for creating corona discharge to ionize scent of claim 30 wherein the discharge pin is constructed with needle or capillary tube.

84. (New) The corona discharge needle or capillary tube of claim 83 wherein the discharge needle or capillary tube is made by conductive materials.

20    85. (New) The corona discharge needle or capillary tube of claim 83 wherein the discharge needle or capillary tube is made by nonconductive materials.

86. (New) The grid opposite from the corona discharge pin of claim 36 wherein the opposite charged grid further neutralize the ionized scent molecules to assist in the scent release process.

87. (New) The scent-bearing card of claim 36 wherein the electrostatic scent release

5 apparatus further comprises:

a shield surround the corona discharge pin for focusing ionized scent molecules to assist in the scent release process; and

wiring for connecting the shield to a ground or an external voltage source with a same charge as the corona discharge pin.

10 88. (New) The corona discharge pin for creating corona discharge to ionize scent of claim 36 wherein the discharge pin is constructed with needle or capillary tube.

89. (New) The corona discharge needle or capillary tube of claim 88 wherein the discharge needle or capillary tube is made by conductive materials.

90. (New) The corona discharge needle or capillary tube of claim 88 wherein the  
15 discharge needle or capillary tube is made by nonconductive materials.

91. (New) The grid opposite from the corona discharge pin of claim 72 wherein the opposite charged grid further neutralize the ionized scent molecules to assist in the scent release process.

92. (New) The scent-bearing card of claim 70 wherein the electrostatic scent release  
20 apparatus further comprises:

a shield surround the corona discharge pin for focusing ionized scent molecules to assist in the scent release process; and

wiring for connecting the shield to a ground or an external voltage source with a same charge as the corona discharge pin.

93. (New) The corona discharge pin for creating corona discharge to ionize scent of claim 70 wherein the discharge pin is constructed with needle or capillary tube.

5 94. (New) The corona discharge needle or capillary tube of claim 93 wherein the discharge needle or capillary tube is made by conductive materials.

95. (New) The corona discharge needle or capillary tube of claim 93 wherein the discharge needle or capillary tube is made by nonconductive materials.

96. (New) The grid opposite from the corona discharge pin of claim 80 wherein the  
10 opposite charged grid further neutralize the ionized scent molecules to assist in the scent release process.

97. (New) The scent-bearing card of claim 76 wherein the electrostatic scent release apparatus further comprises:

a shield surround the corona discharge pin for focusing ionized scent molecules to  
15 assist in the scent release process; and

wiring for connecting the shield to a ground or an external voltage source with a same charge as the corona discharge pin.

98. (New) The corona discharge pin for creating corona discharge to ionize scent of claim 76 wherein the discharge pin is constructed with needle or capillary tube.

20 99. (New) The corona discharge needle or capillary tube of claim 98 wherein the discharge needle or capillary tube is made by conductive materials.

100. (New) The corona discharge needle or capillary tube of claim 98 wherein the discharge needle or capillary tube is made by nonconductive materials.